

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A dental articulating system configured to duplicate at least a portion of a patient's mouth for use in producing a dental prosthesis, the device comprising:
 - a) a pair of trays, pivotally coupled together ~~the trays pivoting with respect to one another between:~~
 - i) ~~a closed configuration, in which the trays are opposingly spaced apart from one another; and~~
 - ii) ~~an open configuration, in which the trays are pivoted away from one another ;~~
 - b) a plurality of registration pin holes, formed in at least one of the trays;
 - c) at least one indentation, formed in at least one of the trays at a bottom of at least one of the plurality of registration pin holes, and sized to receive a tip of a finger or thumb;
 - ~~e) d)~~ a thin membrane, disposed across a the registration pin hole holes between the registration pin holes and the indentation, configured to close off the registration pin hole holes and resist dental casting material from substantially filling the registration pin hole holes; and
 - ~~d) e)~~ at least one registration pin, disposable in at least one of the plurality of registration pin holes, the thin membrane being breakable by a the registration pin inserted into the registration pin hole with the registration pin being extendable through the thin membrane and into the indentation.
2. (canceled)
3. (currently amended) A system in accordance with claim 1, wherein the thin membrane is and the tray are formed integrally with the tray with one another and of the same material.
4. (original) A system in accordance with claim 1, wherein the thin membrane is

separately formed from the tray and attached to the tray.

5. (canceled)

6. (canceled)

7. (canceled)

8. (original) A system in accordance with claim 1, further comprising:

registration struts, formed in at least one of the trays, having a hexagonal cross section.

9. (original) A system in accordance with claim 1, further comprising:

a trough formed in at least one of the trays by a perimeter wall, the perimeter wall having a wavy profile with a plurality of arcuate indentations.

10. (original) A system in accordance with claim 1, further comprising:

a hinge, integrally formed with the trays and positioned between the trays, including:

- i) a pivot axle, associated with one of the trays;
- ii) a shoulder, extending at least partially around the pivot axle and creating two axle portions extending on each side of the shoulder; and
- iii) a pair of fingers, associated with another of the trays, pivotally positioned on opposite sides of the pivot axle and on opposite sides of the shoulder and separated by both the axle and the shoulder.

11. (currently amended) A method for forming a dental model, comprising the steps of:

a) pressing a registration pin through a thin membrane extending across a plurality of registration pin hole holes on ~~at least one of lower and upper trays~~ a working tray of a

dental articulator so that the registration pin breaks the thin membrane and extends through the thin membrane;

b) forming a prepped model of a prepped tooth by disposing dental casting material over the registration pin on the working tray of the dental articulator while the registration pin remains in the registration pin hole, the prepped model of the prepped tooth to receive a dental prosthesis; and

c) forming an opposing model of an opposing tooth on an ~~opposite~~ opposing tray of the dental articulator, the opposing model of the opposing tooth opposing the prepped tooth.

12. (original) A method in accordance with claim 11, further comprising the step of:
segmenting the prepped model on sides corresponding to the prepped tooth to form a prosthesis die.

13. (currently amended) A method in accordance with claim 11, wherein the step of forming the prepped model further includes the step of:
disposing dental casting material over the registration pin holes in ~~at least one of~~ the ~~trays~~ working tray with the thin membrane formed integrally with the working tray and extending across the registration pin holes to resist dental casting material from substantially filling the registration pin holes.

14. (original) A method in accordance with claim 11, wherein the step of pressing the registration pin through the thin membrane further includes the step of:
pressing the registration pin through a thin membrane extending across the registration pin hole near a bottom of the registration pin hole.

15. (currently amended) A method in accordance with claim 11, wherein the step of pressing the registration pin through the thin membrane further includes the step of:
pressing registration pin through the thin membrane disposed at a die receiving

surface of ~~at least one of the trays~~ the working tray.

16. (original) A method in accordance with claim 11, further comprising the step of:
pushing a thumb or finger into a thumb indentation positioned at a bottom of a registration pin hole to push a registration pin out of the registration pin hole.

17. (original) A method in accordance with claim 11, wherein the step of forming the prepped model further includes the step of:
disposing dental casting material around registration struts in at least one of the trays, the registration struts having a hexagonal cross section.

18. (original) A method in accordance with claim 11, wherein the step of forming the prepped model further includes the step of:
disposing dental casting material in at least one of the trays with a trough formed by a perimeter wall, the perimeter wall having a wavy profile with a plurality of arcuate indentations.

19. (currently amended) A method in accordance with claim 11, further comprising the step of:
pivoting the ~~lower and upper~~ working and opposing trays about a hinge integrally formed with the trays, the hinge including a first portion with a shoulder circumscribing an axle and a second portion with opposing fingers movably disposed on opposite sides of the axle and on opposite sides of the shoulder.

20. (currently amended) A method in accordance with claim 11, wherein the steps of forming the prepped and opposing models further includes the steps of:
a) obtaining an impression of at least some of a patient's teeth, the impression including a prepped side with an impression of the prepped tooth to receive the dental prosthesis, and an opposing side with an impression of the opposing tooth opposing the

prepped tooth;

b) introducing dental casting material between the ~~upper~~ opposing tray and the opposing side of the impression to form the opposing model of the opposing tooth;

c) introducing dental casting material between the ~~lower~~ working tray and the prepped side of the impression to form the prepped model of the prepped tooth; and

d) removing the impression from the dental articulator leaving the opposing and the prepped models on respective ~~upper and lower~~ opposing and working trays.

21. (currently amended) A method for forming a dental model, comprising the steps of:

a) obtaining an impression of at least some of a patient's teeth, the impression including a prepped side with an impression of a prepped tooth to receive a dental prosthesis, and an opposing side with an impression of an opposing tooth opposing the prepped tooth;

b) obtaining a dental articulator with ~~upper and lower~~ opposing and working trays pivotally coupled together and a thin membrane extending across a plurality of registration pin ~~hole~~ holes in ~~at least one of the trays~~ the working tray;

c) disposing dental casting material on the ~~upper~~ opposing tray and in the opposing side of the impression;

d) disposing the opposing side of the impression over the ~~upper~~ opposing tray so that dental casting material extends therebetween and forms an opposing model of the opposing tooth;

e) positioning a at least one registration pin in the plurality of registration pin ~~hole~~ holes in ~~at least one of the trays~~ the working tray at a location corresponding to the prepped tooth;

f) pressing the at least one registration pin through the thin membrane extending across the at least one of the plurality of registration pin ~~hole~~ holes;

g) disposing dental casting material ~~on the lower tray and~~ in the prepped side of the impression and on the working tray with the at least one registration pin remaining in the at least one of the plurality of registration pin holes to resist dental casting material

from entering the plurality of registration pin holes;

h) disposing the ~~lower~~ working tray over the prepped side of the impression so that the dental casting material extends therebetween and forms a prepped model of the prepped tooth; and

i) removing the impression from the dental articulator.

22. (original) A method in accordance with claim 21, further comprising the step of:
segmenting the dental casting material of the prepped model on sides
corresponding to the prepped tooth to form a prosthesis die.

23. (currently amended) A method in accordance with claim 21, wherein the step of introducing dental casting material further includes the step of:
disposing the dental casting material over the registration pin holes with the thin membrane being integrally formed with ~~at least one of the trays~~ the working tray and extending across the registration pin holes to resist the dental casting material from substantially filling the registration pin holes.

24. (original) A method in accordance with claim 21, wherein the step of pressing the registration pin through the thin membrane further includes the step of:
pressing the registration pin through the thin membrane extending across the registration pin hole near a bottom of the registration pin hole.

25. (currently amended) A method in accordance with claim 21, wherein the step of pressing the registration pin through the thin membrane further includes the step of:
pressing the registration pin through the thin membrane disposed at a die receiving surface of ~~at least one of the trays~~ the working tray.

26. (original) A method in accordance with claim 21, wherein the step of introducing dental casting material further includes the step of:

disposing dental casting material around registration struts in at least one of the trays, the registration struts having a hexagonal cross section.

27. (original) A method in accordance with claim 21, wherein the step of introducing dental casting material further includes the step of:

disposing dental casting material in a trough formed by a perimeter wall, the perimeter wall having a wavy profile with a plurality of arcuate indentations.

28. (original) A method in accordance with claim 21, further comprising the step of:

pivoting the lower and upper trays about a hinge integrally formed with the trays, the hinge including a first portion with a shoulder circumscribing an axle and a second portion with opposing fingers movably disposed on opposite sides of the axle and on opposite sides of the shoulder.

29. (canceled)

30. (canceled)

31. (currently amended) A dental articulator device, comprising:

a) a pair of U-shaped trays, movable with respect to one another between:

i) a closed configuration, in which the trays are opposingly spaced-apart from one another; and

ii) an open configuration, in which the trays are away from one another; and

b) at least one of the U-shaped trays being open through a middle of the U-shape and having an inner circumferential wall that is straight from a top to a bottom thereof.

32. (new) A device in accordance with claim 31, further comprising:

a pair of posterior stop rods, couplable to one of the trays and extendable to the

other tray.

33. (new) A method for forming a dental model, comprising the steps of:

a) obtaining an impression of at least some of a patient's teeth, the impression including a prepped side with an impression of the prepped tooth to receive the dental prosthesis, and an opposing side with an impression of the opposing tooth opposing the prepped tooth;

b) pressing a registration pin through a thin membrane extending across a plurality of registration pin holes on a working tray of a dental articulator so that the registration pin breaks the thin membrane and extends through the thin membrane;

c) introducing dental casting material between the working tray and the prepped side of the impression, and over the registration pin while the registration pin remains in the registration pin hole, to form a prepped model of a prepped tooth on the working tray of the dental articulator, the prepped model of the prepped tooth to receive a dental prosthesis;

d) introducing dental casting material between an opposing tray and the opposing side of the impression to form an opposing model of an opposing tooth on an opposite tray of the dental articulator, the opposing model of the opposing tooth opposing the prepped tooth.

34. (new) A dental articulator device, comprising:

a) a pair of U-shaped trays, movable with respect to one another between:

i) a closed configuration, in which the trays are opposingly spaced-apart from one another; and

ii) an open configuration, in which the trays are away from one another;

and

b) a hinge, pivotally coupling the trays; and

c) a pair of posterior stop rods, couplable to one of the trays and extendable to the other tray.

35. (new) A device in accordance with claim 34, further comprising:

at least one of the U-shaped trays being open through a middle of the U-shape and having an inner circumferential wall that is straight from a top to a bottom thereof.

36. (new) A system in accordance with claim 1, wherein the at least one indentation further includes a plurality of indentations, each associated with one of the plurality of registration pin holes.

37. (new) A system in accordance with claim 1, wherein the at least one indentation is formed in the tray separate from a perimeter wall of the tray.

38. (new) A method in accordance with claim 11, wherein the step of forming the prepped model further includes the step of:

disposing dental casting material over the registration pin holes in the working tray with the thin membrane formed separately from the working tray and attached to the working tray.

39. (new) A method in accordance with claim 21, wherein the step of forming the prepped model further includes the step of:

disposing dental casting material over the registration pin holes in the working tray with the thin membrane formed separately from the working tray and attached to the working tray.